Figure S1: Genital tract histopathology at week 12. Genital tract tissues obtained from animals in Group 1 (black squares), Group 2 (white triangles), and uninfected controls (UI, black diamonds) at tissue harvest were analyzed histologically. The highest levels of inflammation were detected in the endocervix (A) of animals in Group 1. Inflammation was similar between groups in the uterus (B), oviducts (C), and fimbriae (D). Symbols represent individual animals (A, B) or oviducts (C, D). * $P < 0.05$ by One way ANOVA with Dunn's Multiple Comparison test.

Figure S2: *Chlamydia*-specific antibody in the serum and secretions was similar between animals in Group 1 and Group 2. Levels of IgG in the serum (A), IgA in the serum (B), IgG in the secretions (C), and IgA in the secretions (D) did not differ at week 6 or week 12 for animals in Group 1 (black bars) or Group 2 (white bars). $P > 0.05$ by One way ANOVA with Dunn's Multiple Comparison test. Graphs show the $\log_2$ of the largest antibody dilution where antibody to elementary bodies was detected at a level above the negative control (-). Origin of the y-axis is set at the lowest dilution of the negative control sample. Numbers on the x-axis indicate the animal number.

Figure S3: Representative flow plot depicting gating strategy used to define proliferative T cells. Dead cells were excluded using Live/Dead stain, and (A) CD3+ CD4+ or (B) CD3+CD8+ T cells were analyzed for expression of Ki67, a marker that is upregulated in proliferating cells.

Figure S4: *Chlamydia*-specific responses were similar in the peripheral blood of animals in Group 1 and Group 2. Proliferation of (A) CD3+CD4+ T cells and (B) CD3+ CD8+ T cells was determined by analysis of Ki67 expression by flow cytometry after 5 days of incubation with EBs. Levels of IL-2 (C) and IFNγ (D) were measured in the supernatants with significantly higher levels of IFNγ detected in the supernatants of animals in Group 1 Controllers (black

squares, dashed line) relative to animals in Group 2 (white triangles, solid line) at week 12. Data points indicate values obtained for PBMCs incubated with EBs for 5 days after subtraction of values for PBMCs incubated without EBs. Line indicates mean. *$P < 0.05$ by Two-way RM with Bonferroni posttests.

Figure S5. Representative flow plot depicting gating strategy used for populations of memory T cells. Dead cells were excluded using Live/Dead stain, and (A) CD3+ CD4+ or (B) CD3+CD8+ T cells were subdivided into $CD28^+CD95^+$ central memory T cells (T_{CM}) and $CD28^-$ $CD95^+$ effector memory T cells (T_{EM}).

Figure S6. Comparison of effector and central memory T cells in the peripheral blood of animals in Group 1 and Group 2. Frequencies of *Chlamydia*-specific CD4+ effector memory cells (A), CD4+ central memory cells (B), CD8+ effector memory cells (C), and CD8+ central memory cells (D) were similar in the peripheral blood of animals in Group 1 (black circles, dashed line) and Group 2 (white squares, solid line). T_{CM}: $CD28^+CD95^+$. T_{EM}: $CD28^-CD95^+$. Data points indicate frequencies obtained for PBMCs incubated with EBs for 5 days after values for PBMCs incubated without EBs were subtracted. Line indicates mean.

Fig. S1

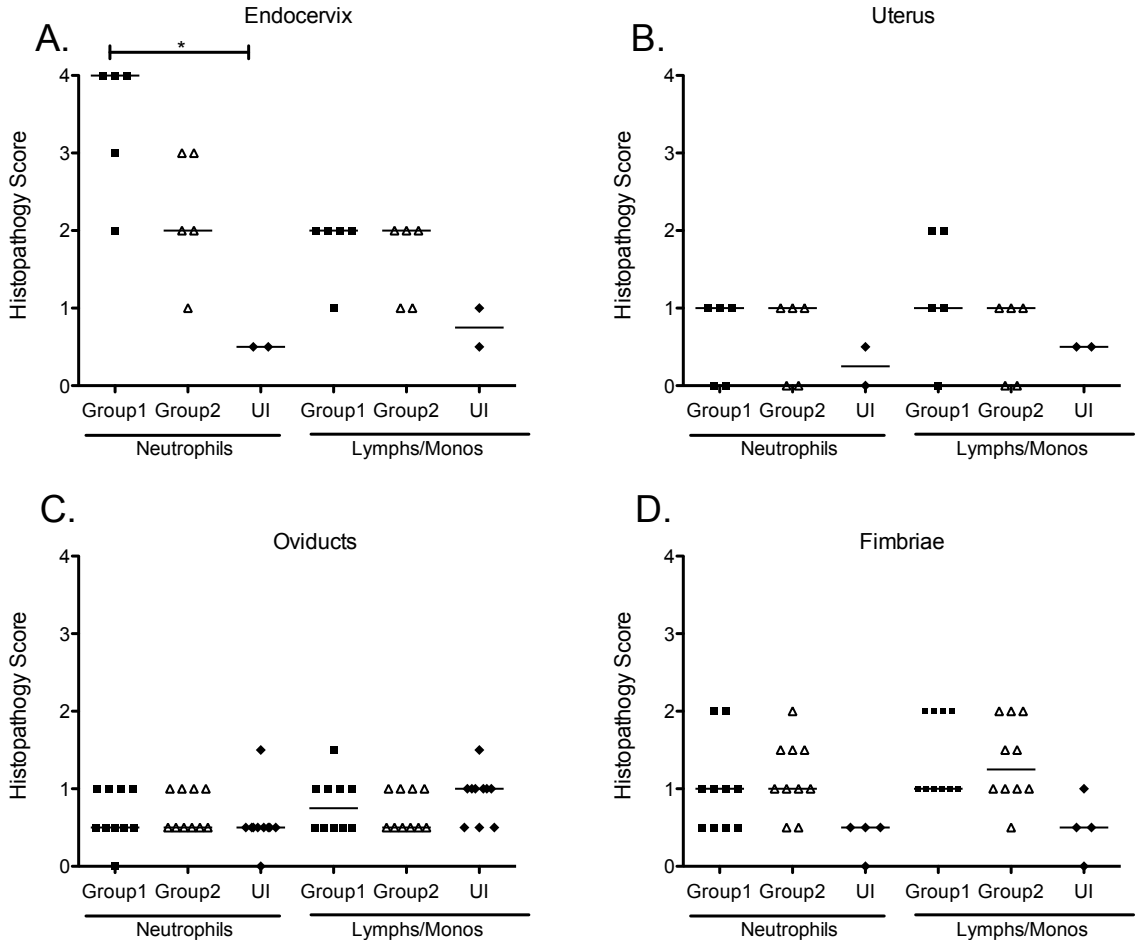

A.
Endocervix
*
Histopathogy Score
0
1
2
3
4
Group1 Group2 UI Group1 Group2 UI
Neutrophils
Lymphs/Monos
B.
Uterus
Histopathogy Score
0
1
2
3
4
Group1 Group2 UI Group1 Group2 UI
Neutrophils
Lymphs/Monos
C.
Oviducts
Histopathogy Score
0
1
2
3
4
Group1 Group2 UI Group1 Group2 UI
Neutrophils
Lymphs/Monos
D.
Fimbriae
Histopathogy Score
0
1
2
3
4
Group1 Group2 UI Group1 Group2 UI
Neutrophils
Lymphs/Monos

Fig. S2

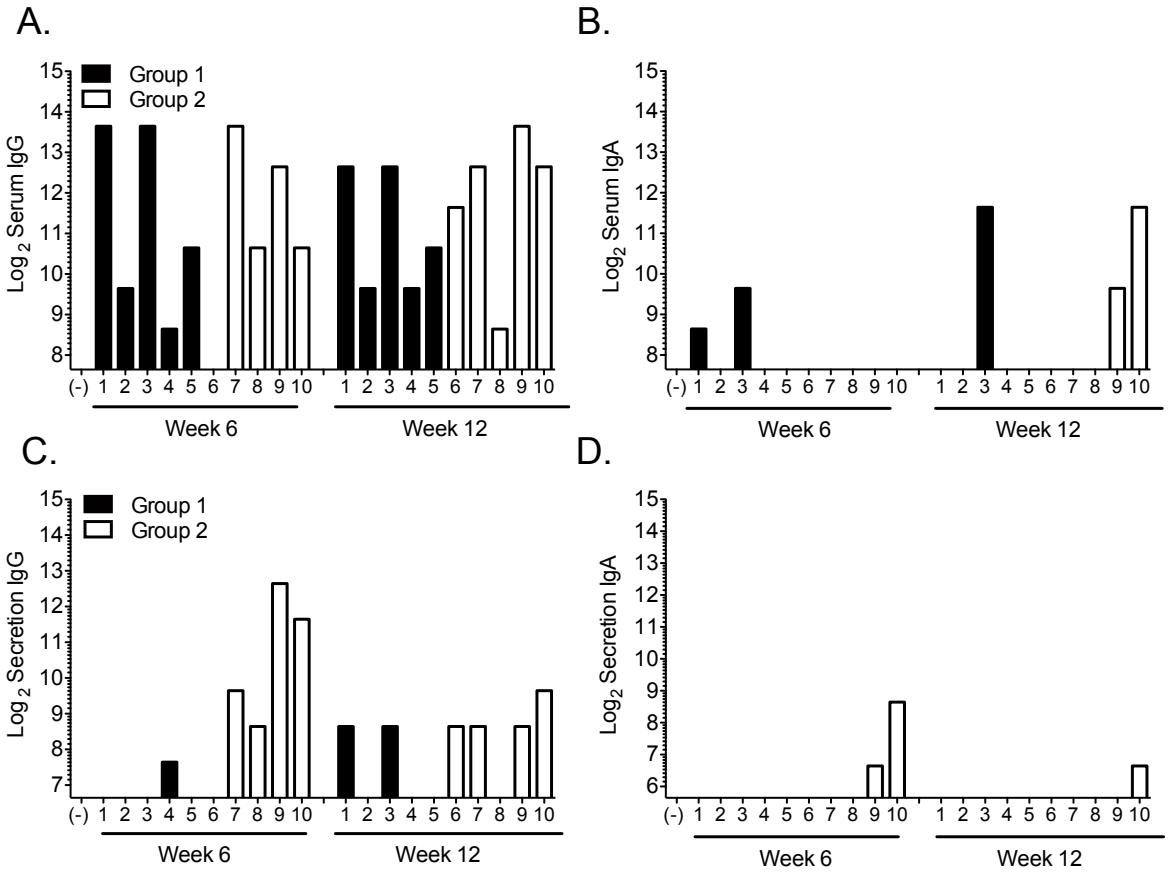

A.
B.
C.
D.
Group 1
Group 2
Log 2 Serum IgG
Log2 Serum IgA
Log 2 Secretion IgG
Log2 Secretion IgA
(-) 1 2 3 4 5 6 7 8 9 10
Week 6
Week 12

Fig. S3

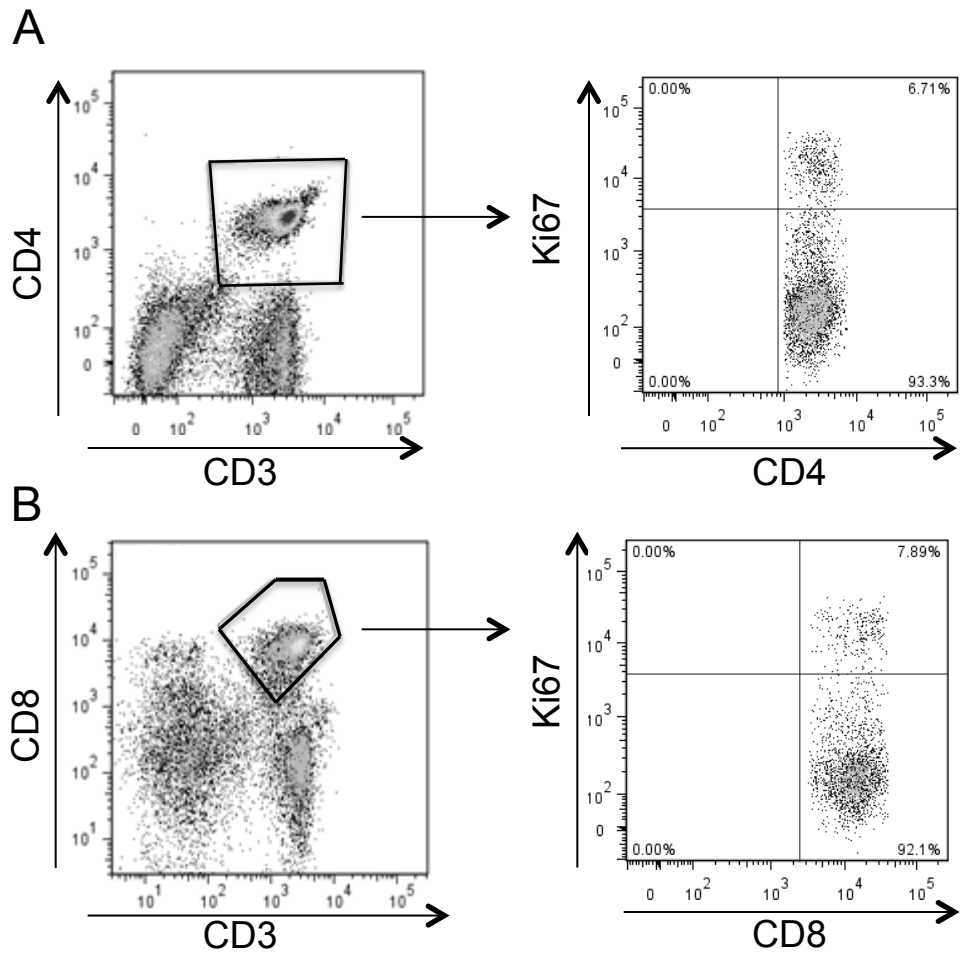

A
CD4
CD3
Ki67
CD4
0.00%
6.71%
0.00%
93.3%
B
CD8
CD3
Ki67
CD8
0.00%
7.89%
0.00%
92.1%

Fig. S4

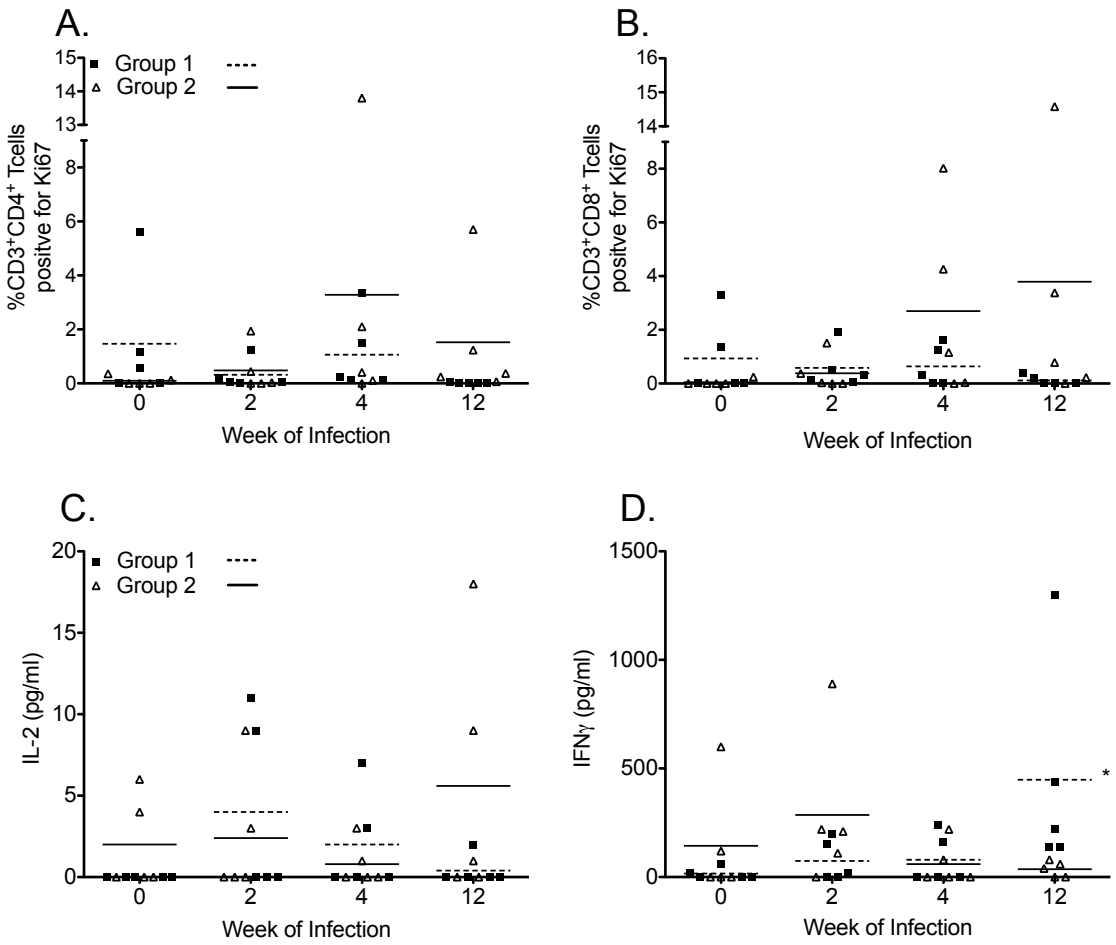

A.
Group 1
Group 2
%CD3+CD4+ Tcells positve for Ki67
Week of Infection
B.
%CD3+CD8+ Tcells positve for Ki67
Week of Infection
C.
IL-2 (pg/ml)
Week of Infection
D.
IFNγ (pg/ml)
*
Week of Infection

Fig. S5

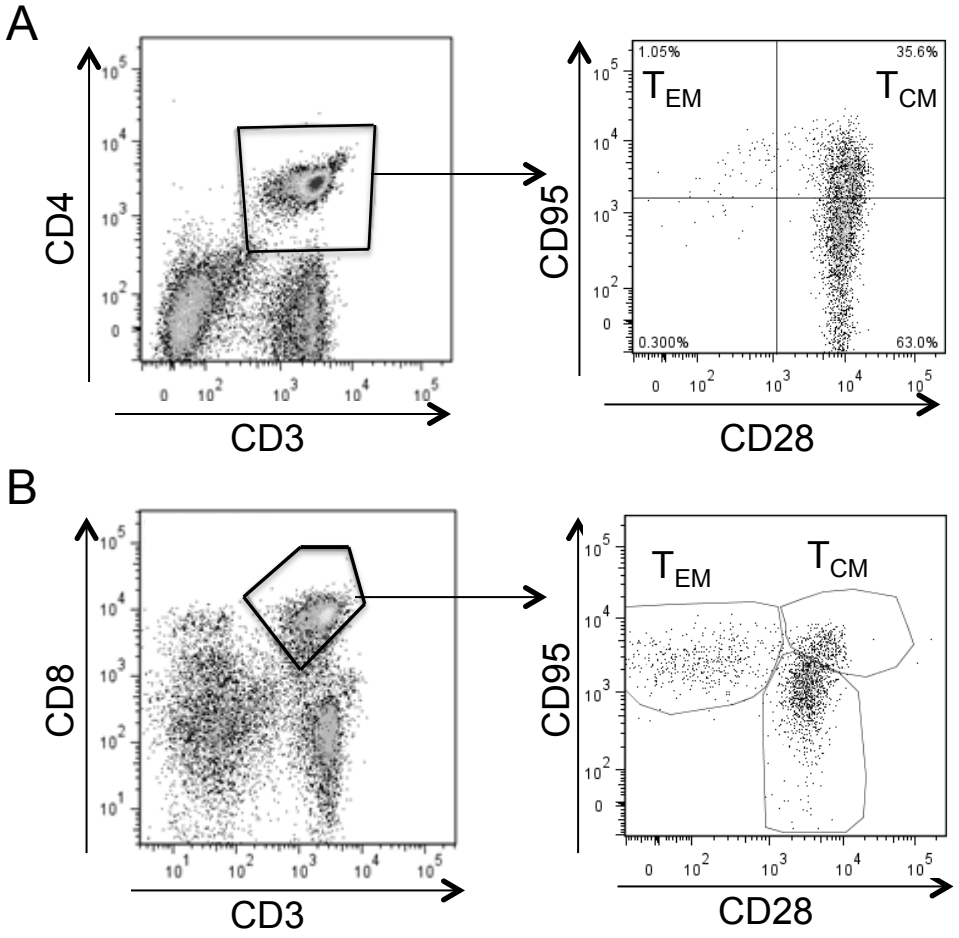
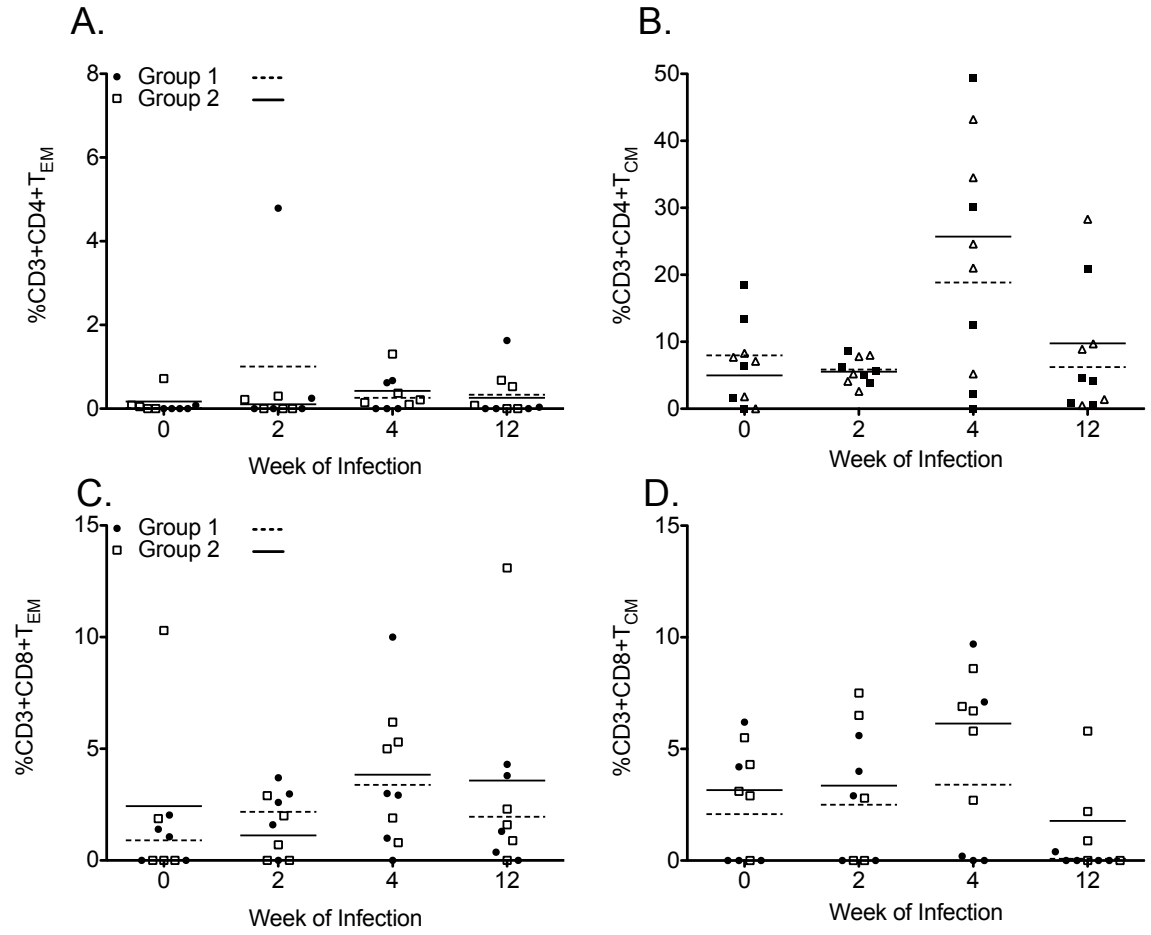

A
CD4
CD3
CD95
CD28
1.05%
35.6%
0.300%
63.0%
T_{EM}
T_{CM}
B
CD8
CD3
CD95
CD28
T_{EM}
T_{CM}

Fig. S6


A.
Group 1
Group 2
%CD3+CD4+T_EM
Week of Infection
B.
%CD3+CD4+T_CM
Week of Infection
C.
Group 1
Group 2
%CD3+CD8+T_EM
Week of Infection
D.
%CD3+CD8+T_CM
Week of Infection